

WHAT IS CLAIMED IS

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X. A switching method for a multi-fiber bidirectional line switched ring comprising the steps of:

10 a) performing span switch by one node of said ring for getting rid of a fault detected by said one node;

b) changing the span switch into ring switch when the span switch can not be performed normally, and performing the ring switch; and

15 c) holding the ring switch request as internal request of said one node when span switch request, higher in priority than the ring switch, generated in another node is received by said one node.

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25 2. The switching method as claimed in claim 1, further comprising the step of:

d) when information indicating that the span switch request higher in the priority has come to be absent is received by the one node, restarting from span switch for getting rid of the fault
30 detected by said one node.

35 3. The switching method as claimed in claim 1, further comprising the step of:

d) when a fault alarm level received by

the one node is changed during performance of the ring switch, performing ring switch according to a new fault alarm level.

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4. The switching method as claimed in claim 1, further comprising the step of:

10 d) when, from another node adjacent on a side reverse to a side on which the ring switch is performed, ring switch request for the one node is received, isolating said one node from the ring.

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5. The switching method as claimed in claim 1, further comprising the step of:

20 d) when span switch request higher in the priority than the ring switch is received by the one node, canceling the ring switch operation of said one node, causing the received span switch request to pass through said one node so as to be
25 transmitted to an adjacent node.

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6. The switching method as claimed in claim 1, further comprising the step of:

35 d) when span switch is attempted to be performed between the one node and each of adjacent nodes on both sides, but the span switch between said one node and the one adjacent node on one side cannot be performed so as to be changed into ring switch, comparing by said one node the priority

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between the span switch request for the other adjacent node and the ring switch request for said one adjacent node so as to determine whether the span switch or ring switch is to be performed, and
5 sending request to the adjacent nodes on both sides based on the result of the determination.

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8. A node apparatus used in a four-fiber bidirectional line switched ring comprising:

a part performing span switch for getting rid of a fault detected by said one node apparatus;
15 a part changing the span switch into ring switch when the span switch cannot be performed normally, and performing the ring switch; and
a part holding the ring switch request as internal request of said node apparatus when span
20 switch request, higher in priority than the ring switch, generated in another node apparatus is received.

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8. The node apparatus as claimed in claim 7, further comprising:

a part, when information indicating that
30 the span switch request higher in the priority has come to be absent is received, restarting from span switch for getting rid of the detected fault.

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9. The node apparatus as claimed in claim

7, further comprising:

a part, when a received fault alarm level is changed into another fault alarm level during performance of the ring switch, performing ring
5 switch according to the another fault alarm level.

10 10. The node apparatus as claimed in
claim 7, further comprising:

a part, when, from another node apparatus adjacent on a side reverse to a side on which the ring switch is performed, ring switch request for
15 the own node apparatus is received, isolating said own node apparatus from the ring.

20 11. The node apparatus as claimed in
claim 7, further comprising:

a part, when span switch request higher in the priority than the ring switch is received by the
25 own node apparatus, canceling the ring switch operation of said own node apparatus, and causing the received span switch request to pass through said own node apparatus so as to be transmitted to an adjacent node apparatus.

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12. The node apparatus as claimed in
35 claim 7, further comprising:
a part, when span switch is attempted to be performed between the own node apparatus and each

of adjacent node apparatuses on both sides, but the span switch between said own node apparatus and the one adjacent node apparatus cannot be performed so as to be changed into ring switch, comparing the
5 priority between the span switch request for the other adjacent node apparatus and the ring switch request for said one adjacent node apparatus so as to determine whether the span switch or ring switch is to be performed, and sending request to the
10 adjacent node apparatuses on both sides based on the result of the determination.

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